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**REMARKS**

Claims 1–31 and 33 are currently pending in the subject application upon entry of the amendments and new claims. Claims 1-25 are presently under consideration. Claim 32 is cancelled in view of the Restriction Requirement and new claim 33 is added and is within elected Group I - no new matter is introduced.

Upon allowance of the device claims (elected Group I) applicants' representative will request rejoinder of the unelected method claims (claims 26-31). MPEP 821.04 specifies that, where product and process claims are presented in the same application, and if product claims are elected in a Restriction Requirement, after a product claim is found allowable, withdrawn process claims which depend from or include all the limitations of the allowable product claim will be rejoined. Accordingly, method claim 26 has been amended to depend from independent claim 1 to facilitate rejoinder.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

**I. Rejection of Claims 1–7 Under 35 U.S.C. §102(b)**

Claims 1–7 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kobayashi *et al.* (US 6,245,601). Withdrawal of this rejection is respectfully requested for at least the following reasons. Kobayashi *et al.* does not teach or suggest the claimed invention.

For a prior art reference to anticipate, 35 U.S.C. §102 requires that "each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999) (quoting *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2USPQ2d 1051, 1053 (Fed. Cir. 1987)).

The subject invention as claimed relates to semiconductor **memory** devices with a functional media that changes an **impedance state**, wherein such

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impedance state is indicative of **information content** – (the functional zone includes passive and active layers that allow for obtaining a plurality of states for the memory cell, such as representing “0”, “1”.) For example, to read information from the memory device, a voltage or electric field can be applied thereto, and an impedance for the device measured to determine an operating state of “on” (1) or “off” (0). In this connection, independent claim 1 recites: “an **impedance state** of the functional media changes based on a migration of electrons or holes [...] the **impedance state** indicative of **information content** [...]” Such aspects of the claimed invention are not taught nor suggested by Kobayashi *et al.*

Rather, Kobayashi *et al.* is directed to improvements of signal-to-noise (SN) ratio for a photoelectric converter. The layering substrate arrangements depicted in Kobayashi *et al.* (e.g., Fig. 6) are directed to photoelectric conversion element(s), and not a memory device with a **state indicative of information content** as recited in the subject claims. Moreover, the “On-Off” switching mechanism (110) of Kobayashi *et al.* is external to the photoelectric conversion element 100, and does not function as the memory state change of applicants’ claimed invention.

In view of the at least above comments, it is readily apparent that Kobayashi *et al.* does not teach or suggest the subject invention as recited in independent claim 1, and claims 2-7 dependent therefrom. Withdrawal of this rejection is therefore respectfully requested.

## II. Rejection of Claims 8–25 Under 35 U.S.C. §103(a)

Claims 8–25 stand rejected under 35 U.S.C. §103(a) as being obvious over Kobayashi *et al.* in view of Clausen *et al.* (US 6,272,038).

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference

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teachings. Second there must be a reasonable expectation of success. Finally, ***the prior art reference (or references when combined) must teach or suggest all the claim limitations.*** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art and not based on the Applicant's disclosure. *See In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

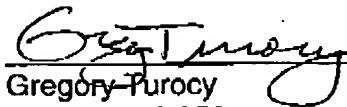
Claims 8-25 depend from independent claim 1, and Clausen *et al.* does not make up for the aforementioned deficiencies of Kobayashi *et al.* with respect to independent claim 1. Clausen *et al.* is directed to a memory device that operates based on an ***oxidation state***, and not an ***impedance state*** that varies according to interactions of a passive and active layer as in applicants' claimed invention. Operation of a memory cell by an oxidation state is NOT equivalent to operating a memory cell using an impedance state.

Accordingly, the combination of Kobayashi *et al.* and Clausen *et al.* does not make obvious applicants' invention as recited in the subject claim, and this rejection should be withdrawn.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063. Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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